

Amendments to the Claims

The current status of the claims is as follows:

Claims 1-479 (Canceled)

480. (Currently Amended) A kit comprising:

a probe molecule for use in determining the presence of a target nucleic acid sequence in a sample, the probe comprising complementary first and second base regions that form a hybrid containing at least one ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety, wherein the probe forms a stable, ~~double-stranded~~ complex with the target nucleic acid sequence but not with a non-targeted nucleic acid under nucleic acid assay conditions, such that the target nucleic acid sequence can be detected, and wherein the complex comprises a single-stranded form of the probe;

a nucleic acid polymerase;

nucleotide triphosphates; and

an amplification oligonucleotide which, in the presence of a nucleic acid analyte and under amplification conditions, is extended to form part of a nucleic acid extension product containing the target nucleic acid sequence or directs the synthesis of a nucleic acid transcription product containing the target nucleic acid sequence.

481. (Previously Presented) The kit of claim 480, wherein the first base region contains at least one ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety, and wherein the first base region complexes with the target nucleic acid sequence under the nucleic acid assay conditions.

482. (Previously Presented) The kit of claim 480, wherein that portion of the first base region which hybridizes to the second base region includes a cluster of at least about 4 ribonucleotides modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

483. (Previously Presented) The kit of claim 482, wherein the first base region complexes with the target nucleic acid sequence under the nucleic acid assay conditions.

484. (Previously Presented) The kit of claim 480, wherein that portion of the first base region which hybridizes to the second base region includes at least one nucleotide which is not a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

485. (Previously Presented) The kit of claim 484, wherein the first base region complexes with the target nucleic acid sequence under the nucleic acid assay conditions.

486. (Previously Presented) The kit of claim 480, wherein each nucleotide of that portion of the first base region which hybridizes to the second base region is a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

487. (Previously Presented) The kit of claim 486, wherein the first base region complexes with the target nucleic acid sequence under the nucleic acid assay conditions.

488. (Previously Presented) The kit of claim 480, wherein each nucleotide of the probe is a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

489. (Previously Presented) The kit of claim 480, wherein the first and second base regions form a hybrid that is more stable than a hybrid formed between unmodified forms of the first and second base regions.

490. (Previously Presented) The kit of claim 480, wherein the probe includes a conjugate molecule.

491. (Previously Presented) The kit of claim 482, wherein the probe includes a conjugate molecule joined to the probe at a site located within the cluster of the first base region.

492. (Previously Presented) The kit of claim 480, wherein the first and second base regions are contained within an oligonucleotide that is between 10 and 100 bases in length.

493. (Previously Presented) The kit of claim 480, wherein the probe comprises a detectable label.

494. (Previously Presented) The kit of claim 493, wherein the detectable label comprises a fluorescent molecule.

495. (Previously Presented) The kit of claim 480, wherein the nucleic acid analyte comprises RNA.

496. (Previously Presented) The kit of claim 495, wherein the RNA is ribosomal RNA.

497. (Previously Presented) The kit of claim 495, wherein a target sequence contained within the target nucleic acid includes a double-stranded region.

498. (Currently Amended) The kit of ~~any one of claims~~ claim 480 ~~to 497~~, wherein the 2'-O-alkyl substitution to the ribofuranosyl moiety is a 2'-O-methyl substitution.

499. (New) A reaction mixture comprising:
one or more amplification oligonucleotides in the presence of at least one nucleic acid polymerase and nucleotide triphosphates sufficient to form a nucleic acid amplification product; and

a probe molecule comprising first and second base regions hybridized to each other and having at least one ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety, wherein the probe forms a stable and detectable complex with the amplification product but not with non-target nucleic acid, and wherein the complex comprises a single-stranded form of the probe.

500. (New) The reaction mixture of claim 499, wherein the one or more amplification oligonucleotides and the probe are present in the reaction mixture when the amplification reaction is initiated.

501. (New) The reaction mixture of claim 499, wherein the first base region contains at least one ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety, and wherein the first base region complexes with the target nucleic acid sequence under the nucleic acid assay conditions.

502. (New) The reaction mixture of claim 499, wherein that portion of the first base region which hybridizes to the second base region includes a cluster of at least about 4 ribonucleotides modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

503. (New) The reaction mixture of claim 502, wherein the first base region complexes with the target nucleic acid sequence under the nucleic acid assay conditions.

504. (New) The reaction mixture of claim 499, wherein that portion of the first base region which hybridizes to the second base region includes at least one nucleotide which is not a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

505. (New) The reaction mixture of claim 504, wherein the first base region complexes with the target nucleic acid sequence under the nucleic acid assay conditions.

506. (New) The reaction mixture of claim 499, wherein each nucleotide of that portion of the first base region which hybridizes to the second base region is a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

507. (New) The reaction mixture of claim 506, wherein the first base region complexes with the target nucleic acid sequence under the nucleic acid assay conditions.

508. (New) The reaction mixture of claim 499, wherein each nucleotide of the probe is a ribonucleotide modified to include a 2'-O-alkyl substitution to the ribofuranosyl moiety.

509. (New) The reaction mixture of claim 499, wherein the first and second base regions form a hybrid that is more stable than a hybrid formed between unmodified forms of the first and second base regions.

510. (New) The reaction mixture of claim 499, wherein the probe includes a conjugate molecule.

511. (New) The reaction mixture of claim 502, wherein the probe includes a conjugate molecule joined to the probe at a site located within the cluster of the first base region.

512. (New) The reaction mixture of claim 499, wherein the first and second base regions are contained within an oligonucleotide that is between 10 and 100 bases in length.

513. (New) The reaction mixture of claim 499, wherein the probe comprises a detectable label.

514. (New) The reaction mixture of claim 513, wherein the detectable label comprises a fluorescent molecule.

515. (New) The reaction mixture of claim 499, wherein the nucleic acid analyte comprises RNA.

516. (New) The reaction mixture of claim 515, wherein the RNA is ribosomal RNA.

517. (New) The reaction mixture of claim 515, wherein a target sequence contained within the target nucleic acid includes a double-stranded region.

518. (New) The reaction mixture of claim 499, wherein the 2'-O-alkyl substitution to the ribofuranosyl moiety is a 2'-O-methyl substitution.